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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,166	12/15/2003	Jun Oouchi	Q78737	2120

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EXAMINER

SAFAIPOUR, BOBBAK

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/734,166

Applicant(s)

OOUCHI, JUN

Examiner

Bobbak Safaipoor

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/15/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement submitted on 12/15/2003 has been considered by the Examiner and made of record in the application file.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Oouchi (United States Patent #6,175,791 B1) (hereinafter Oouchi '791)** in view of **Oouchi (United States Patent #6,356,207 B1) (hereinafter Oouchi '207)** and further in view of **Imura et al (United States Patent #5,909,653)**.

Consider **claim 1**, Oouchi '791 shows and discloses an on-vehicle DSRC apparatus including a main body of the on-vehicle DSRC apparatus to be mounted on a motor vehicle (col. 3, lines 4-7; A DSRC car-mounted equipment for executing a dedicated narrow-range communication with an on-the-road equipment), a signal processing unit provided in said main body of said on-vehicle DSRC apparatus (col. 3, lines 8-11; A communication control unit for demodulating the signals received from said on-the-road equipment and for forming signals to be transmitted to said on-the-road equipment), and an external storage medium insertion slot which is integrally formed in said main body of said on-vehicle DSRC apparatus and into which an external storage medium can removably be inserted (col. 3, lines 12-13; An IC card accommodation portion in which is removably accommodated an IC card that works as an external storage medium).

Oouchi '791 fails to teach and an antenna array electrically connected to said signal processing unit to perform intercommunication with on-road equipment, wherein said signal processing unit is designed to process signals received through said antenna array and send out a variety of signals to said on-road equipment through transaction of information with said external storage medium inserted in said external storage medium insertion slot.

In the same field of endeavor, Oouchi '207 shows and discloses, as known in the art, a transmission/reception antenna that executes communication with the on-the-road equipment installed on a road (figure 1; col. 4, lines 12-14).

Furthermore, Oouchi '207 discloses a car-mounted controller which includes various arithmetic processing means and a transmission/reception control unit, changes over the transmission/reception change-over switch, fetches reception data from the on-the-road equipment via the reception circuit, outputs the transmission data to the on-the-road equipment via the transmission circuit, and, as required, outputs required data for detecting abnormal condition to the transmission modulator. To the car-mounted controller are connected a display unit that works as information output means and an external storage medium such as IC cards (figure 1; col. 4, lines 50-60).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Oouchi '207 into the system of Oouchi '791 to inform the driver of the condition of the data transmission/reception function to and from the on-the-road-equipment.

The systems of Oouchi '207 and Oouchi '791 teach the limitations stated above. However, Oouchi '207 and Oouchi '791 fail to teach said on-vehicle DSRC apparatus further comprising a mounting member for mounting said antenna array at a predetermined location of said motor vehicle, and antenna angle holding means mounted swingably on said mounting member for holding the angle of said antenna array relative to the horizontal plane of said motor vehicle within a predetermined range of angle, wherein said antenna angle holding means is designed to set said predetermined range of angle such that a proper angle can be ensured for

enabling intercommunication between said on-road equipment and said antenna array within said predetermined communication area.

In the same field of endeavor, Imura et al show and disclose, as known in the art, a radio device that comprises an antenna that is supported on the upper surface of the case by an antenna support mechanism (fig. 1; col. 3, lines 5-7).

Imura et al also disclose an antenna support mechanism that can be rotated such that the antenna moves away from the front surface, i.e. in the direction of the rear surface, the tip of the antenna describing an arc of  $\theta$  degrees from the vertical position (fig. 1; col. 3, lines 8-12).

When the rotation of the antenna reaches a prescribed angle sufficiently inclined with respect to the front surface of the case, the antenna support mechanism rigidly locks the antenna with respect to the case (fig. 1; col. 3, lines 13-16).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Imura et al into the systems of Oouchi '791 and Oouchi '207 to allow the device to transmit and receive stably with another station without degradation of antenna performance.

Consider **claim 2**, and **as applied to claim 1 above**, Oouchi '791, as modified by Oouchi '207, fail to teach an antenna angle holding means is constituted by a balance member pivotally mounted on said mounting member, and wherein the angle of said antenna array relative to a mounting face of said mounting member is held within a constant range of angle associated with said predetermined range of angle.

Imura et al disclose an element protector that is freely rotatable, wherein portions of the pin, which protrude from the antenna element protector, are rotatably held within the case (fig. 2; col. 3, lines 37-41). The antenna rotates in the direction with the pin as a pivot (fig. 2; col. 3,

lines 43-44). Furthermore, Imura et al disclose when the movable gear rotates, the support gear is pressed down into the depression against the resilience of the spring, allowing the meshing of the two gears to slip. The moveable gear is constructed such that, taking the pin as an axis, the distance between the teeth forms the prescribed angle (fig. 2; col. 3, lines 57-62).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Imura et al into the systems of Oouchi '791 and Oouchi '207 to allow rotation of the antenna.

Consider **claim 3**, and **as applied to claim 2 above**, Oouchi '791, as modified by Oouchi '207, fail to teach a balance member that has a weight attached at least one location of said balance member.

Imura et al disclose an antenna element protector, which is formed from an insulating material having limited high-frequency dielectric loss, wherein a pin is connected to the antenna element and passes through the antenna element protector in a direction parallel to the front surface of the case (fig. 2; col. 3, lines 30-36).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Imura et al into the systems of Oouchi '791 and Oouchi '207 to hold the antenna in a fixed state when the angle of rotation reaches a prescribed angle.

Consider **claim 4**, and **as applied to claim 3 above**, Oouchi '791, as modified by Oouchi '207, fail to teach that the weight is made of a metal having electrical conductivity and connected to a grounding terminal of said antenna array.

Imura et al disclose an antenna element that is composed of a metal rod that determines the major characteristics of the antenna (fig. 2; col. 3, lines 28-29).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Imura et al into the systems of Oouchi '791 and Oouchi '207 so that the antenna can function properly.

Consider **claim 5**, and **as applied to claim 2 above**, Oouchi '791, as modified by Oouchi '207, fail to teach a rotation angle limiting mechanism for limiting a rotation angle range of said balance member relative to said mounting member.

Imura et al disclose that when the movable gear moves, and when the angle of the antenna with respect to the front surface of the case reaches the prescribed angle, the teeth of the fixed gear and the movable gear intermesh and lock after having slipped the interval of one tooth. The antenna is held at a position such that it forms the prescribed angle with respect to the front surface of the case (fig. 2; col. 3 line 65 - col. 4, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Imura et al into the systems of Oouchi '791 and Oouchi '207 to hold the antenna in a fixed state when the angle of rotation reaches a prescribed angle.

Consider **claim 6**, and **as applied to claim 1 above**, Oouchi '791, as modified by Oouchi '207, fail to teach a mounting member that is constituted by said main body of said on-vehicle DSRC apparatus.

Imura et al disclose that the antenna of the radio device is supported on the upper surface of the case by an antenna support mechanism (fig. 1; col. 3, lines 5-7).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Imura et al into the systems of Oouchi '791 and Oouchi '207 to comprise an antenna-holding structure for accommodating the antenna.



Consider **claim 7**, and **as applied to claim 1 above**, Oouchi '791, as modified by Oouchi '207, fail to teach a mounting member that is disposed separately from said main body of said on-vehicle DSRC apparatus, and wherein said antenna array is electrically connected to said signal processing unit by way of a cable.

Imura et al disclose that the antenna support mechanism can be rotated such that the antenna moves away from the surface, i.e., such that the antenna moves away from the front surface, i.e., in the direction of the rear surface, the tip of the antenna describing an arc of  $\theta$  degrees from the vertical direction. (fig. 1; col. 3, lines 8-13).

Furthermore, Imura et al disclose the antenna is connected to the transmitter-receiver by way of a feed circuit, the feed circuit and the transmitter-receiver being accommodated within the case. The feed circuit includes a matching circuit of the antenna. The transmitter-receiver outputs transmission signals which become transmission radiowaves and inputs reception signals arising from reception radiowaves (fig. 2; col. 2, lines 58-64).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Imura et al into the systems of Oouchi '791 and Oouchi '207 to emit transmission radiowaves of high frequency to another station.

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Oouchi (United States Patent #6,175,791 B1) (hereinafter Oouchi '791)** in view of **Oouchi (United States Patent #6,356,207 B1) (hereinafter Oouchi '207)** and further in view of **Imura et al (United States Patent #5,909,653)**, as applied to claim 1 above, and further in view of **Chatzipetros et al (United States Patent Application Publication #2002/0047810 A1)**.

Consider **claim 8**, and **as applied to claim 1 above**, the systems of Oouchi '791, Oouchi '207, and Imura et al disclose the claimed invention except for wherein said mounting member is mounted on a windshield surface or alternatively on a dashboard of said motor vehicle.

In the same field of endeavor, Chatzipetros et al show and disclose, as known in the art, an antenna that is attached to a portion of the vehicle, for example, the roof, trunk, fender, or windshield. The antenna is mounted to the vehicle using any means known in the art, for example, an adhesive, magnetic attraction, a screw-on connection, and the like (fig. 8, paragraph 30).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Chatzipetros et al into the systems of Oouchi '791, Oouchi '207, and Imura et al to have the antenna positioned at a location most advantageous to the reception of RF signals.

### ***Conclusion***

6. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Bobbak Safaipour whose telephone number is (571) 270-1092. The Examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.


If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Bobbak Safaipour*  
B.S./bs

August 14, 2006

  
RAFAEL PEREZ-GUTIERREZ  
SUPERVISORY PATENT EXAMINER  
8/18/06